



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,246	09/22/2003	Kazunari Tonami	242243US2	9509
22850	7590	12/09/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.			VO, QUANG N	
1940 DUKE STREET				
ALEXANDRIA, VA 22314			ART UNIT	PAPER NUMBER
			2625	
		NOTIFICATION DATE	DELIVERY MODE	
		12/09/2008	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/666,246	Applicant(s) TONAMI ET AL.
	Examiner Quang N. Vo	Art Unit 2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 September 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 6-20,26-30,32-34,36,38-40 and 42 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5,21-25,31,35,37 and 41 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 10/20/08.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21, 35 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the limitation "a signal including either of luminance/chrominance different signal and a lightness/chromaticity signal image from the RGB signal" as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this case, the limitation fails to point out a signal including either of luminance/chrominance different signal or a lightness/chromaticity signal image; or a signal including both of luminance/chrominance different signal and a lightness/chromaticity signal image.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 21-25, 31, 35, 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchigami et al. (Fuchigami) (US 7,006,253) in view of Ohta (US 7,280,249).

With regard to claim 1, Fuchigami discloses an image processing apparatus (e.g., figure 2) comprising: a scanning unit (e.g., scanner 1, figure 2) that optically read an original color image (e.g., an exposure lamp 5 for illuminating a document placed on the document table 4 with light; a reflector 6 for condensing the light from the exposure lamp on the document; and a first mirror 7 for guiding the light from the document in the leftward direction as viewed in the Figure, column 3, lines 52-64) that acquires a RGB signal corresponding to an original color image (e.g. By this color image sensor 15 (in scanner), the incident light is converted into electric signals corresponding to the primary three colors of R (red), G (green) and B (blue), column 4, lines 30-32); a conversion unit that converts the RGB signal into a CMY signal (e.g., color conversion section 131 for converting RGB to CMY, figure 3); an extraction unit that extracts an image attribute from the CMY signal (e.g., these are extraction units: first character determination section 134a, a second character determination section 134b, a first color determination section 135a, a second color determination section 135b, a character determination selector section 136, a color determination selector section 137, a background sensing section 138, figure 3, column 7, lines 58-67); and a processing unit that applies, based on the image attribute, an adaptive image processing to the RGB signal (e.g., each section of the color printer first perform processing with respect to the

Art Unit: 2625

RGB image signals, and then RGB signals subjected to the processing by each section are converted into CMY image signals, column 8, lines 16-46).

Fuchigami differs from claim 1 in that he does not explicitly disclose based on preset conversion coefficient that will vary according to characteristics of color materials of which the original color image is made for converting RGB to CMY.

Ohta discloses based on preset conversion coefficient that will vary according to characteristics of color materials of which the original color image is made for converting RGB to CMY (e.g., the coefficients for masking correction and RGB/CMYK conversion are changed between the photograph region and text region, thereby improving the output image quality. For example, a conversion coefficient wherein pixels are reproduced only with black toner (color material) is applied for text regions, i.e., for pixels wherein the text flag is "1", (in other words, a coefficient wherein C, M, and Y are 0), is applied for pixels wherein there is no color, and for the regions other than text region, coefficients are applied wherein C, M, and Y, are not 0 even in the event that there is no color, so as to reproduce a black with depth, column 14, line 66 - column 15, line 11).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami to include based on preset conversion coefficient that will vary according to characteristics of color materials of which the original color image is made for converting RGB to CMY as taught by Ohta. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami by the teaching of Ohta to improve image quality.

With regard to claim 2, Fuchigami discloses wherein the extraction unit calculates an edge amount of the color image as the image attribute (column 1, lines 54-63).

With regard to claim 3, Fuchigami discloses wherein the extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the image attribute (column 8, lines 16-23).

Regarding claim 4, Fuchigami differs from claim 4 in that he does not explicitly disclose wherein the conversion unit changes the preset conversion coefficients for converting the RGB signal into the CMY signal based on a type of the color image.

Ohta discloses wherein the conversion unit changes the preset conversion coefficients for converting the RGB signal into the CMY signal based on a type of the color image (e.g., a conversion coefficient wherein pixels are reproduced only with black toner is applied for text regions, i.e., for pixels wherein the text flag is "1", in other words, a coefficient wherein C, M, and Y are 0, is applied for pixels wherein there is no color. Also, for the regions other than text region, coefficients are applied wherein C, M, and Y, are not 0 even in the event that there is no color, so as to reproduce a black with depth, column 8, line 67 – column 9, line 7).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami to include wherein the conversion unit changes the preset conversion coefficients for converting the RGB signal into the CMY signal based on a type of the color image as taught by Ohta. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami by the teaching of Ohta to improve image quality.

Regarding claim 5, Ohta discloses wherein the type of the color image is any one of a print image, a photographic printing paper image, and a photocopy image (column 4, lines 42-47).

With regard to claim 21, Fuchigami discloses an image processing apparatus (e.g., figure 2) comprising: a scanning unit (e.g., scanner 1, figure 2) that optically read an original color image (e.g., an exposure lamp 5 for illuminating a document placed on the document table 4 with light; a reflector 6 for condensing the light from the exposure lamp on the document; and a first mirror 7 for guiding the light from the document in the leftward direction as viewed in the Figure, column 3, lines 52-64) that acquires a RGB signal corresponding to an original color image (e.g. By this color image sensor 15 (in scanner), the incident light is converted into electric signals corresponding to the primary three colors of R (red), G (green) and B (blue), column 4, lines 30-32); a first conversion unit that converts the RGB signal into a CMY signals (e.g., color conversion section 131 for converting RGB to CMY, figure 3); a first extraction unit that extracts a first image attribute from the CMY signal (e.g., The image signals that are output simultaneously correspond to the number of lines required for feature amount extraction or color determination. For example, in the description below, the first region required for the processing executed by the feature amount calculation section 133 is a region of 5.times.5 pixels wherein a pixel of interest is at the center, column 8, lines 32-39); a second conversion unit that generates a signal including either of luminance/chrominance different signal and a lightness/chromaticity signal image from the RGB signal (The first and second color determination sections 135a and 135b are

Art Unit: 2625

processing sections for determining whether the color information on a pixel of interest indicate either "chromatic" or "achromatic.", column 9, lines 36-39); a second extraction unit (e.g., color determination section 137, figure 3) that extracts a second image attribute from the signal generated by the second conversion unit (column 9, lines 41-48); and a processing unit that applies, based on the first image attribute and the second image attribute, an adaptive image processing to the RGB signal (e.g., each section of the color printer first perform processing with respect to the RGB image signals, and then RGB signals subjected to the processing by each section are converted into CMY image signals, column 8, lines 16-48).

Fuchigami differs from claim 21 in that he does not explicitly disclose based on preset conversion coefficient that will vary according to characteristics of color materials of which the original color image is made for converting RGB to CMY.

Ohta discloses based on preset conversion coefficient that will vary according to characteristics of color materials of which the original color image is made for converting RGB to CMY (e.g., the coefficients for masking correction and RGB/CMYK conversion are changed between the photograph region and text region, thereby improving the output image quality. For example, a conversion coefficient wherein pixels are reproduced only with black toner (color material) is applied for text regions, i.e., for pixels wherein the text flag is "1", (in other words, a coefficient wherein C, M, and Y are 0), is applied for pixels wherein there is no color, and for the regions other than text region, coefficients are applied wherein C, M, and Y, are not 0 even in the event that

there is no color, so as to reproduce a black with depth, column 14, line 66 - column 15, line 11).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami to include based on preset conversion coefficient that will vary according to characteristics of color materials of which the original color image is made for converting RGB to CMY as taught by Ohta. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami by the teaching of Ohta to improve image quality.

With regard to claim 22, Fuchigami discloses wherein the first extraction unit calculates an edge amount of the color image as the first image attribute (column 8, lines 60-66), and the second extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the second image attribute (column 8, lines 23-30).

With regard to claim 23, Fuchigami discloses wherein the first extraction unit calculates the edge amount from a C signal and an M signal of the CMY signal as the second image attribute (column 15, lines 21-29).

Regarding claim 24, the subject matter is similar to claim 4. Therefore claim 24 is rejected as set forth above for claim 4.

Regarding claim 25, the subject matter is similar to claim 5. Therefore claim 25 is rejected as set forth above for claim 5.

Referring to claim 31:

Claim 31 is the method claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 31 is rejected as set forth above for claim 1.

Referring to claim 37:

Claim 37 is a computer readable medium storing a computer program claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 37 is rejected as set forth above for claim 1.

Referring to claim 35:

Claim 35 is the method claim corresponding to operation of the device in claim 21 with method steps corresponding directly to the function of device elements in claim 21. Therefore claim 35 is rejected as set forth above for claim 21.

Referring to claim 41:

Claim 41 is a computer readable medium storing a computer program claim corresponding to operation of the device in claim 21 with method steps corresponding directly to the function of device elements in claim 21. Therefore claim 41 is rejected as set forth above for claim 21.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is (571)270-1121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Q. N. V./
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625